

Parasitoid wasp *Dusona terebrator* (Forster) (Hym.: Ichneumonidae: Campopleginae) reared from larva of Marsh Moth *Athetis pallustris* (Hb.) in Lincolnshire

Of three final instar larvae of the Marsh Moth *Athetis pallustris* collected from the Saltfleetby-Theddlethorpe Dunes National Nature Reserve in Lincolnshire on 3 October 2000, for study as part of the UK Biodiversity Action Plan project on this moth, one later produced a single black and red parasitic wasp (Plate J). This wasp has been identified by Dr Klaus Horstmann of the University of Wurzburg, Germany (via Dr Mark Shaw, National Museums of Scotland, Edinburgh) as a female *Dusona terebrator* (Forster).

During my study of the three Marsh Moth larvae in outdoor conditions, I found that they fed on leaves of Ribwort Plantain *Plantago lanceolata* at intervals when the weather was mild, from October to early March. The parasitised larva spun a loose oval cocoon incorporating sand grains, under dry grass, in advance of the other two larvae, at some point between the end of January and mid-February 2001. The other two larvae, and others I reared in 1990, continued to feed and be mobile until the middle of March. The adult wasp emerged on 7 May 2001 and was recorded live on video-tape. On examination of the host cocoon, it was found to contain the larval skin of the host and the tightly spun almost blackish cocoon of the wasp, also shown in Plate J.

Larvae of the Marsh Moth have been surveyed annually since 1995 at this site by Gerry Haggett who collects a few each year in August. He informs me he has never yet reared a parasitoid from these larvae. The fact that I collected mine in October may be significant. Possibly the female wasps lay their eggs into the larvae between August and October when the larvae are nearly fully grown and preparing to overwinter. Alternatively, the wasp may be only a very occasional parasitoid of the Marsh Moth. However, it has been recorded at least once before from this species. Edelsten *et al.* (1944. *Hydrillula palustris* Huebner in England. *Entomologist* 67: 49-54, 65-72), report the rearing of a single parasitoid which emerged from a Marsh Moth cocoon on 23 April 1942, from one of over 46 larvae collected at Woodwalton Fen, Huntingdonshire in September and October 1941. The parasitoid was identified and reported as the wasp *Campoplex terebrator* (Forster) and this is the same species, which is still valid, (Horstmann, with access to the collections and notes of the late Rolf Hinz). In Edelsten's era this species was already known from various species of moth larvae, especially the Mottled Rustic *Caradrina morpheus*. Mottled Rustic larvae are sometimes found in litter piles together with those of the Marsh Moth when surveying the Saltfleetby site. Dr Horstmann reports that Hinz's notes also record that the wasp has been reared from Porter's Rustic *Proxenus (Athetis) hospes* (Freyer) in Italy. According to Dr Shaw there are about 50 species in the genus *Dusona* in Britain, many have narrow host ranges, but they do not appear to concentrate on a single host and most probably attack early and middle instar larvae. There are 20 specimens of



Plate J.

Dusona terebrator (Forster) (Ichneumonidae) reared from Marsh Moth *A. pallustris*.



Plate K.

Diadegma sp. (Ichneumonidae) reared from 2nd brood *Pareulype berberata* (D.&S.)

Dusona terebrator in the museum collection in Edinburgh, all determined by Hinz who was the authority on the genus, but none is reared. They come from a wide scatter of sites in England, Scotland and Wales and the flight times suggest the wasp might be bivoltine (adults in May-June and July-September).

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An undescribed *Diadegma* species (Hym.: Ichneumonidae) reared from both first and second generation larvae of the Barberry Carpet moth *Pareulype berberata* (D.& S.)(Lep.: Geometridae) from Wiltshire

During 2000, a parasitic wasp was reared from wild larvae of the Barberry Carpet moth *P. berberata*. This is the first report of a parasitoid from this species in Britain in many years but, because the moth is protected by law (Wildlife & Countryside Act 1981), opportunities for wild larvae to be collected for rearing in captivity are few. From the start of the English Nature conservation work for this species in 1988 until 2000, three larvae have been collected from a site in Suffolk, three from Dorset, and a total of about a dozen from three sites in Wiltshire, all for captive breeding, and none has produced parasite. In 2000, another unknown site was discovered in Wiltshire, making either seven or nine in the county, depending on the definition of a site (see Waring, 2000. Conserving the Barberry Carpet moth. *British Wildlife* 11(3): 175-182). However, this one was to be destroyed to make way for gravel extraction. The bushes were due to be lifted and replanted on a safe site early in 2001. Six larvae were beaten from some of the bushes in June 2000 and another nine at the end of August 2000. The aim was to hold them in captivity and return their progeny to assist the pupae, hopefully translocated with the soil and roots of the bushes, to maintain the population. A single wasp was produced from the batch of first generation larvae and three wasps from the second generation larvae. All are the same species of black ichneumonid wasp with yellow legs. Each had emerged as a grub from a final instar larva and had spun a cocoon by the remains of the host. All three adult wasps from the second generation were found emerged and dead when the rearing boxes (in an unheated garage) were inspected on 17 October, but had not emerged by mid September when they were previously checked. This suggests they do not pass the winter as dormant pupae or adults, but presumably as eggs or grubs within another host. The wasps and their cocoons were photographed and sent to Dr Mark Shaw (National Museum of Scotland) for identification. They